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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,137	10/09/2003	Donggeon Kong	1907.1293	6463

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EXAMINER	
RAJAN, KAI	

ART UNIT	PAPER NUMBER
3769	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/681,137	Applicant(s) KONG ET AL.	
	Examiner Kai Rajan	Art Unit 3769	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 December 2009*.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,17-25,27-34 and 36-44* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-14,17-25,27-34 and 36-44* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The Examiner acknowledges the amendment filed December 30, 2009.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 30, 2009 has been entered.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d), however Applicant cannot rely upon the foreign priority papers to overcome this rejection because **translation of said papers has not been made of record** in accordance with 37 CFR 1.55. See MPEP § 201.15.

Response to Arguments

Applicant's arguments have been fully considered but they are not persuasive. The Applicant contends that the prior art fails to disclose "[a] SVM classifier comprising an emotional state determiner unit selecting values related to specific emotion," and that the Tato reference is removed as prior art in light of the declaration under Rule 131, filed November 12, 2009. The Examiner disagrees.

First, the Examiner acknowledges that Teller et al. teaches determining levels of relaxation and stress, yet fails to determine emotion from collected parameters. However, Tato cures the deficiencies of Teller et al., as explained in the rejection (see below).

Second, the declaration filed November 12, 2009 is insufficient to show the Applicant had possession of the invention on the claimed date. The documents discuss the determination of stress levels, yet fail to discuss or suggest the determination of emotion and levels of emotion. As such, for at least these reasons, the declaration fails to show conception of the invention coupled with due diligence at the claimed dates of June 24, 2002 and July 12, 2002. Therefore, the Tato reference is pertinent prior art, and the rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 11, 13, 14, 17 – 25, 27– 34 and 37 – 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teller et al. U.S. Patent No. 7,261,690, in view of Ark et al. U.S. Patent No. 6,190,314, and further in view of Tato et al. U.S. PGPub No. 2003/0069728.

Note to Applicant: See previous action for rejection to unaddressed dependent claims, as they are rejected on substantially the same basis.

Teller et al. disclose a mobile device with an input unit, a display unit, a memory unit and a central control unit, the mobile device comprising:

a biomedical signal measurement module that detects biomedical signals from a user's body, and classifies the detected biomedical signals by respective signals and outputting the classified signals, (Teller et al. column 9 line 52 – column 10 line 37); and

a processor that:

analyzes an emotional state and physical condition of the user based on the classified signals input from the biomedical signal measurement module and physical information of the user, (Teller et al. figure 1 item 30, table 2):

extracts feature values of the classified biomedical signals input from the biomedical signal measurement module (Teller et al. column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2),

obtains differences between the extracted feature values from the feature analysis unit and predetermined feature values (Teller et al. column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2), and

analyzes the user's physical condition based on the classified biomedical signals input from the biomedical signal measurement module and the user's physical information (Teller et al. column 18 line 57 – column 19 line 30), and selects values and calculates and outputs an index and level (Teller et al. column 19 lines 45 – 55, figure 8 various levels of stress and relaxation include a display of stress and relaxation levels indexed from "high to low").

Teller et al. discloses collecting physiological and subjective data from a user, and classifying the user's well being and emotional state (Teller et al. column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2), yet fails to disclose a support vector machine for classifying emotion state. However, Tato et al. a reference in an analogous art of collecting data and classifying emotional states discloses using support vector machines for classifying emotions that determines and outputs the level or index of positive and negative emotions (Tato et al. paragraph 0052, see also figure 1 showing different emotions plotted on a grid with axes representing positivity/negativity and activity to determine a level of arousal and pleasure). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the emotional state classification of Teller et al. to use support vector machines as in Tato et al., since Tato et al. discloses support vector machines among other classification methods that are known in the art and are suitable for classifying feature vectors.

24. A health care method using a mobile device, comprising the steps of:

detecting biomedical signals from a user's body (Column 9 line 52 – column 10 line 37);

classifying the detected biomedical signals by respective signals (Teller et al. column 9 line 52 – column 10 line 37, table 1);

analyzing an emotional state of the user by extracting a plurality of feature values from the classified biomedical signals, calculating differences between the extracted feature values and predetermined feature values, and classifying the user's emotional state by respective emotions in accordance with the calculated differences of the feature values (Teller et al. column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2); and

analyzing a physical condition of the user based on the classified signals and user's physical information (Teller et al. column 18 line 57 – column 19 line 30), and

selecting values and calculates and outputs an index and level (Teller et al. column 19 lines 45 – 55, figure 8 various levels of stress and relaxation include a display of stress and relaxation levels indexed from "high to low”).

Teller et al. discloses collecting physiological and subjective data from a user, and classifying the user’s well being and emotional state (Teller et al. column 19 lines 45 – 55, figure 8 various levels of stress and relaxation, table 2), yet fails to disclose a support vector machine for classifying emotion state. However, Tato et al. a reference in an analogous art of collecting data and classifying emotional states discloses using support vector machines for classifying emotions that determines and outputs the level or index of positive and negative emotions (Tato et al. paragraph 0052, see also figure 1 showing different emotions plotted on a grid with axes representing positivity/negativity and activity to determine a level of arousal and pleasure). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the emotional state classification of Teller et al. to use support vector machines as in Tato et al., since Tato et al. discloses support vector machines among other classification methods that are known in the art and are suitable for classifying feature vectors.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teller et al. U.S. Patent No. 7,261,690 in view of Tato et al. U.S. PGPub No. 2003/0069728, further in view of Khair et al. U.S. PGPub No. 2002/0109621.

Regarding claims 12 and 36, Teller et al. and Tato et al. disclose collecting physiological data from a user from skin electrodes, but fail to disclose correcting user-to-user variation based on the measured physiological signals. However, Khair et al. a reference in an analogous art discloses adjusting amplifier gain automatically to compensate for varying skin resistance and to keep measured signals within predetermined ranges (Khair et al. paragraphs 0098 – 0099). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Teller et al. and Tato et al. with the adjustable amplifier gain system of Khair et al., since Khair et al. states that varying amplifier gain can compensate for weak physiological signals and bad surface connections, and obtain the sensitivity required for specific applications (Khair et al. paragraph 0099).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim et al. U.S. Patent No. 6,656,116 B2;

Zawilinski U.S. Patent No. 5,676,138; and

Musha U.S. Patent No. 5,601,090.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kai Rajan whose telephone number is (571)272-3077. The examiner can normally be reached on Monday - Friday 9:00AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Johnson can be reached on 571-272-4768. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kai Rajan/
Examiner, Art Unit 3769

/Henry M. Johnson, III/
Supervisory Patent Examiner, Art Unit 3769

March 11, 2010